

ATTACHMENT A

Claims 1 - 16: (Cancelled)

17. (New) A process for polymerizing at least one alpha-olefin comprising:

- continuously contacting at least one alpha-olefin with a metallocene-based catalyst system in a loop reactor at a temperature ranging from 25°C to 70°C, wherein

- (i) the alpha-olefin and metallocene-based catalyst system is in a liquid medium; and

- (ii) an average residence time of the metallocene-based catalyst system is not more than 30 minutes;

obtaining a prepolymerized metallocene-based catalyst system comprising a polymerization degree ranging from 60 to 500 g per gram of the metallocene-based catalyst system;

- continuously feeding the prepolymerized metallocene-based catalyst system into a polymerization reactor;

- polymerizing at least one alpha-olefin with the prepolymerized metallocene-based catalyst system.

18. (New) The process according to claim 17, wherein the continuously contacting at least one alpha-olefin with the metallocene-based catalyst system in the loop reactor at a temperature ranging from 25°C to 70°C further comprises hydrogen.

19. (New) The process according to claim 18, wherein the hydrogen is in the loop reactor, and the hydrogen ranges from 5 to 1000 ppm.

20. (New) The process according to claim 17, wherein the average residence time is not more than 20 minutes.

21. (New) The process according to claim 17, wherein the polymerization degree ranges from 70 to 300 g per gram of the metallocene-based catalyst system.

22. (New) The process according to claim 17, wherein the temperature ranges from 30°C to 65°C.

23. (New) The process according to claim 17, wherein the metallocene-based catalyst system is obtained by contacting:

- a) at least one transition metal compound containing at least one π bond;

- b) at least one alumoxane or a compound able to form an alkylmetallocene cation; and

- c) optionally an organo aluminum compound.

24. (New) The process according to claim 23, wherein the metallocene-based catalyst system is supported on an inert carrier.

25. (New) The process according to claim 17, wherein the continuously contacting at least one alpha-olefin with the metallocene-based catalyst system at a temperature ranging from 25°C to 70°C is carried out in a first loop reactor, with the prepolymerized metallocene-based catalyst system transferred to a separator via a first line, with the prepolymerized metallocene-based catalyst system then transferred via a second line to a gas-phase reactor with a polymer withdrawn through a final line.

26. (New) The process according to claim 17, wherein the continuously contacting at least one alpha-olefin with the metallocene-based catalyst system at a temperature ranging from 25°C to 70°C is carried out in a first loop reactor, with the prepolymerized metallocene-based catalyst system transferred via a first line, to a gas-phase reactor with a polymer withdrawn through a second line.

27. (New) The process according to claim 17, wherein the continuously contacting at least one alpha-olefin with the metallocene-based catalyst system at a temperature ranging from 25°C to 70°C is carried out in a first loop reactor, with the prepolymerized metallocene-based catalyst system transferred to a loop polymerization reactor via a first line with a polymer withdrawn through a discharge line.

28. (New) The process according to claim 17, wherein the polymerizing of at least one alpha-olefin with the prepolymerized metallocene-based catalyst system is carried out in one or more reactors connected in series.

29. (New) The process according to claim 17, wherein at least one alpha-olefin of formula $\text{CH}_2=\text{CHT}$ is polymerized, wherein T is hydrogen or a $\text{C}_1\text{-C}_{20}$ alkyl radical.

30. (New) The process according to claim 29, wherein at least one polyene is homopolymerized or copolymerized.

31. (New) The process according to claim 29, wherein propylene is homopolymerized.

32. (New) The process according to claim 29, wherein propylene is copolymerized with ethylene or with at least one alpha olefin of formula $\text{CH}_2=\text{CHT}^1$, wherein T^1 is a $\text{C}_2\text{-C}_{20}$ alkyl radical.

33. (New) The process according to claim 32, wherein propylene is polymerized with at least one polyene.

34. (New) The process according to claim 32, wherein propylene and ethylene are copolymerized.